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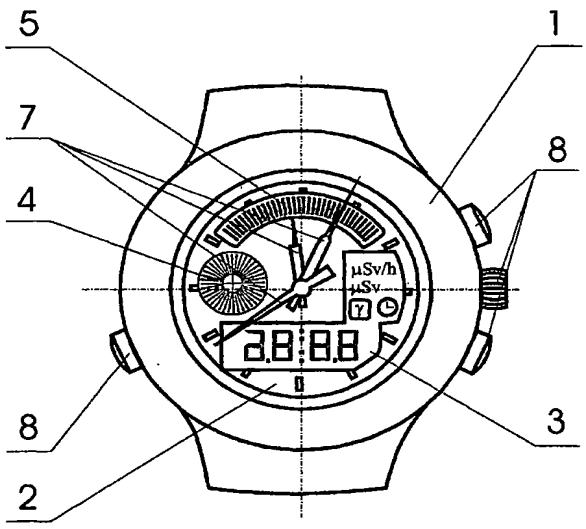
(54) Title: PORTABLE WATCH WITH RADIATION MONITOR



(57) Abstract: The invention relates to combined individual devices which combine timekeeping functions with monitoring of the radiation dosage to which the user is exposed and of radiation intensity. The aim of current invention is to use Geiger-Muller counter as a radiation detector in individual wristwatch and to ensure its functioning over a long period of time. A voltage changer able to change tension from 1,5V - 3V to 400V is needed to make the Geiger-Muller counter function in wristwatch and other compact devices. This was realized by installing in the certain wristwatch a Geiger-Muller counter functioning as a radiation detector and a voltage pulse converter for GeigerMuller counter power supply; and the micro controller was connected to the voltage changer. The problem put by is solved also in the following way: in known method of converting low voltage into high constant voltage at opening the switch key, the return impulse voltage at primary winding is being compared with the predetermined value and frequency of switch key control impulse is being changed depending on the presence of impulse at the threshold device, here switch key control impulses come from micro controller; and when the signal from the Geiger-Muller counter is received, an additional switch key control impulse is sent. The problem put by is solved also by installing the threshold element in the transformer primary winding of the compact voltage changer. This threshold element is connected to micro controller, while micro controller data bus is connected to unipolar transistor base. There are also other distinctions from the prototype. Research revealed that the device ensures high accuracy of measurement and the functioning period of the device fed by one power supply item is up to one year.

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